



TETRA TECH

February 21, 2013
112C04684.01

Mr. Lawrence Jones
State of Delaware
Site Investigation and Restoration Section
Delaware Department of Natural Resources and Environmental Control (DNREC)
391 Lukens Drive
New Castle, DE 19720-2774

Dear Mr. Jones:

Subject: *Relocation of Two Groundwater Monitoring Wells, Former Milford Fertilizer Property, DNREC Program ID DE-1412*

INTRODUCTION

This letter describes the procedures used to abandon and replace the two groundwater monitoring wells at the former Milford Fertilizer property (DE-1412) in support of the DeIDOT's Summit Bridge Road/Marl Pit Road Intersection Improvement Project in Middletown, Delaware (**Figures 1 and 2**). The former Milford Fertilizer property is located on the northeast corner of the intersection of Summit Bridge Road and Marl Pit Road. The property is still undergoing investigation and remediation work as directed by DNREC. The planned intersection realignment project would have placed the two existing monitoring wells (MW-8 and MW-9) within the new intersection Right-of-Way (ROW); therefore, DNREC directed that these wells be relocated.

WORK PERFORMED BY TETRA TECH

Monitoring Wells Installation

Tetra Tech subcontracted Walton Corporation (Newark, Delaware) to provide a hollow-stem auger drill rig and a Delaware-licensed operator to install the two replacement monitoring wells. The monitoring wells were installed on January 14, 2013, according to DNREC regulations and Tetra Tech standard operating procedures (SOPs), which are included in Appendix A. A Tetra Tech environmental scientist supervised the well drilling and installation work and provided health and safety oversight.

The two replacement wells were installed at locations outside the new ROW as approved by DNREC's Project Manager and the current property owner of the former Milford Fertilizer site (**Figure 3**). The wells, designated MW-8N and MW-9N, were drilled to 15 feet below existing grade. Walton Corporation well completion reports and formation logs are included in Appendix B.

Each well was constructed with 2-inch diameter, Schedule 40 PVC casing with 10 feet of 10-slot well screen, and a No. 1 Morie sand filter pack. The well screens were set at the bottom 10 feet of each borehole with 7 feet of screen below the water table and 3 feet of screen above the water table. Both wells were completed with flush-mount protective casing and locking caps.

The specific monitoring well details are shown in the following table.

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Monitoring Well Designation	Total Depth (feet)	Well Screen Interval (feet below grade)	Well Casing Interval (feet below grade)
MW-8N	15	15 to 5	5 to 0
MW-9N	15	15 to 5	5 to 0

After installation the wells were developed by pumping groundwater until all fine sediment that may have entered the well casing during installation had been removed.

Well Abandonment

Monitoring wells MW-8 and MW-9 were abandoned on January 14, 2013, by a Delaware-licensed well driller employed by the Walton Corporation (Newark, Delaware) under the direct supervision of a Tetra Tech environmental scientist. The wells were abandoned according to applicable DNREC regulations and guidelines regarding well abandonment. Copies of the Walton Well Abandonment Reports are included as an attachment to this letter (Appendix C).

Investigation-Derived Waste (IDW) Management

The drill cuttings generated during the installation of wells were placed in 55-gallon drums for later testing and disposal. The waste generated during this field effort included two 55-gallon drums with drill cuttings and approximately 130 gallons of groundwater generated during well development and augers decontamination.

On January 31, 2013, Tetra Tech was on site to collect one solid and one liquid waste characterization sample. The samples were sent to Mid-Atlantic Laboratories, Inc. for organophosphorus compounds analysis. Based on the analytical results, the waste generated during field activities did not exhibit any evidence of contamination above DNREC-SIRS Screening Levels, and was disposed on site with the DNREC project manager's approval. A copy of the IDW analytical report is included in Appendix D.

If you have any questions regarding activities at the site, please contact me at (302)283-2230.

Sincerely,

Christopher W. Geiger
Project Manager

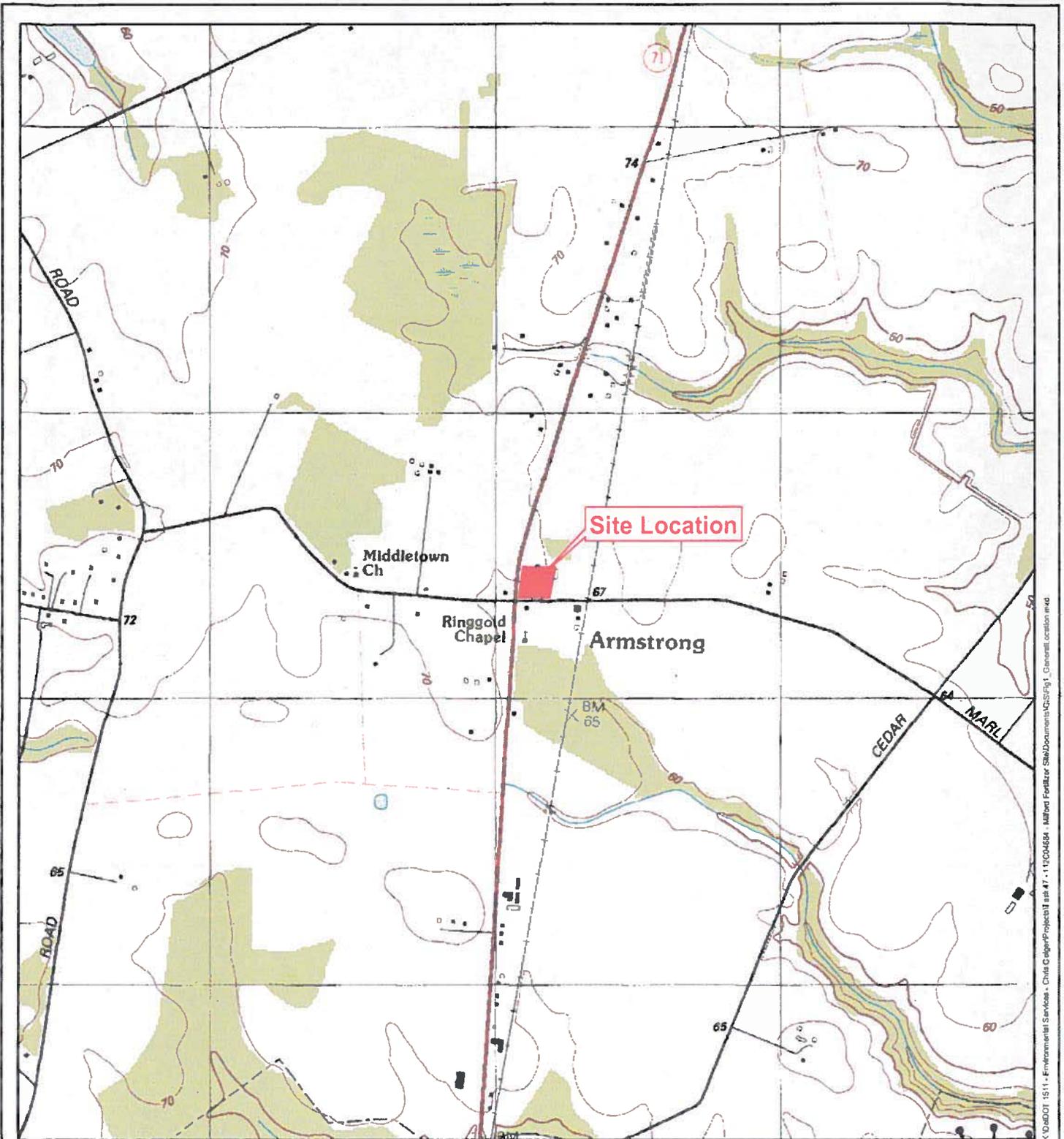
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Attachments: Figures 1, 2, and 3
Appendix A – Standard Operating Procedures
Appendix B – Well Completion Logs
Appendix C – Well Abandonment Reports
Appendix D – IDW Analytical Report

c: Ms. Christine Edwards, DeIDOT Project Manager

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DNREC SIRS
Former Milford Fertilizer Site – DE-1412
DeIDOT Project No. 112C04684 (Task 47)
February 21, 2013



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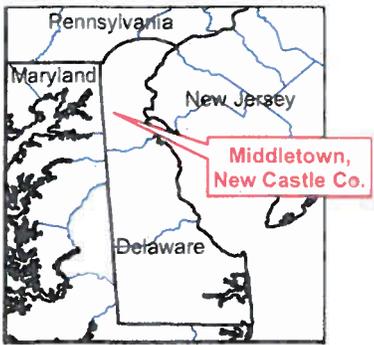


Figure 1
 Site Location Map
 Milford Fertilizer Site
 Middletown, New Castle Co., DE

0 100 200 400
 Feet

1 inch = 200 feet

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Source: Topo data from USGS DLG, Aerials from DelDOT, Roads from DelDOT

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Legend

- Property Boundary
- Delaware Roads



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Figure 2
 Site Sketch
 Milford Fertilizer Site
 Middletown, New Castle Co., DE

0 50 100 200
 |-----|-----|-----|-----|
 Feet

1 inch = 100 feet

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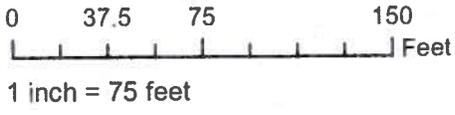
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Legend

-  Monitoring Well
-  Property Boundary
-  Delaware Roads



Figure 3
 Monitoring Wells Location
 Milford Fertilizer Site
 Middletown, New Castle Co., DE




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